

## (12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(19) World Intellectual Property  
Organization  
International Bureau



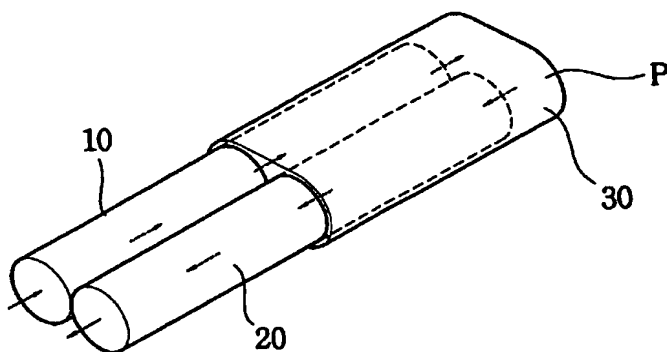
(43) International Publication Date  
5 February 2004 (05.02.2004)

PCT

(10) International Publication Number  
**WO 2004/010855 A1**

- (51) International Patent Classification<sup>7</sup>: **A61B 1/00** (74) Agent: **WOO, Deok-Keun**; 202, Seojeong Building, 1572-10, Seocho-3-dong, Seocho-gu, Seoul 137-874 (KR).
- (21) International Application Number: PCT/KR2003/001491
- (22) International Filing Date: 24 July 2003 (24.07.2003) (81) Designated States (*national*): AU, CN, JP, US.
- (25) Filing Language: Korean (84) Designated States (*regional*): European patent (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR).
- (26) Publication Language: English
- (30) Priority Data: 10-2002-0043961 25 July 2002 (25.07.2002) KR Published: — with international search report
- (71) Applicant and (72) Inventor: **PARK, Sang-Kyu** [KR/KR]; 102-303, Samik Mansion, Bongsun-2-dong, Nam-gu, 503-062 Kwangju (KR). For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

(54) Title: A SENSOR FOR DIAGNOSTIC MEASURING MACHINE



(57) Abstract: The present invention pertains to a sensor for a diagnostic device using an optical fiber and a pH sensitive high molecular weight substance, which indicates the safety of foodstuffs or is used as a medical examination device. More particularly, the present invention relates to a sensor for a diagnostic device which detects a wavelength change of reflected light using an optical spectroscopy to indicate a freshness of foodstuffs or an immune condition of a human body, including a light receiving optical fiber through which light is transferred from a light source to a pH sensitive high molecular weight substance. The sensor also includes a semi-permeable membrane film part which is filled with the pH sensitive high molecular

weight substance so as to detect a pH change of a subject when the subject comes into contact with the pH sensitive high molecular weight substance, receives an output end of the light receiving optical fiber and an input end of an information transferring optical fiber, and includes a reflection member inserted therein so as to reflect the light passing through the light receiving optical fiber into the information transferring optical fiber. The information transferring optical fiber transfers data including the freshness of the foodstuffs or a health condition of the human body therethrough when the light subjected to a wavelength interference by the pH sensitive high molecular weight substance advances into the optical spectroscopy. Alternatively, the sensor for the diagnostic device may include a diagnostic kit insertion member instead of the semi-permeable membrane film part. The diagnostic kit insertion member is made of a material having excellent light transmittance, receives an output end of the light receiving optical fiber and an input end of the information transferring optical fiber, and has a diagnostic kit insertion groove for receiving a diagnostic kit. At this time, the diagnostic kit includes a semi-permeable membrane member and the pH sensitive high molecular weight substance. Accordingly, the sensor for the diagnostic device according to the present invention is advantageous in that it has a relatively short diagnostic time and excellent sensitivity and selectivity to a specific substance. Other advantages are that the sensor may be repeatedly used many times and applied to various fields, and various diagnoses can be conducted for a relatively short time through a simple operation in which various diagnostic kits are replaced with each other.

## INTERNATIONAL SEARCH REPORT

International application No.  
PCT/KR03/01491**A. CLASSIFICATION OF SUBJECT MATTER**

IPC7 A61B 1/00

According to International Patent Classification (IPC) or to both national classification and IPC

**B. FIELDS SEARCHED**

Minimum documentation searched (classification system followed by classification symbols)

IPC7 A61B, G01N

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched  
Korean Patents and applications for inventions since 1975

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)

**C. DOCUMENTS CONSIDERED TO BE RELEVANT**

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	KR 2001-0071775 A (LIFESPEX INC.) 31 JULY 2001 see whole document	1, 2
A	KR 2001-0101687 A (MASSACHUSETTS INS. TECH.) 14 NOVEMBER 2001 see whole document	1, 2
A	JP 2002-272737 A (FUJI PHOTO FILM CO., LTD.) 24 SEPTEMBER 2002 see whole document	1, 2

☐ Further documents are listed in the continuation of Box C.☒ See patent family annex.

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Date of the actual completion of the international search

09 OCTOBER 2003 (09.10.2003)

Date of mailing of the international search report

09 OCTOBER 2003 (09.10.2003)

Name and mailing address of the ISA/KR

Korean Intellectual Property Office  
920 Dunsan-dong, Seo-gu, Daejeon 302-701,  
Republic of Korea

Facsimile No. 82-42-472-7140

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Information on patent family members

International application No.

PCT/KR03/01491

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